

Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) An inductive, electrical-circuit element for an ICP source comprising:

a conductor formed of a sheet of electrically conductive material having a pair of ends and formed into at least one loop having shaped edges defining a plurality of segments including segments from each of a plurality of differing width and cross-sectional geometries;
a pair of RF connector terminals, one fixed to each of the ends of the electrically conductive material; and
the shaped edges of the conductor being configured to define alternating segments of the differing geometries around an axis of the element.

Claim 2 (canceled)

3. (currently amended) The inductive, electrical-circuit element of claim 1 wherein:
the segments each having a thickness and a width defining an aspect ratio of width to thickness;
a segment of one geometry having an aspect ratio that is relatively high with respect to a segment of another geometry.

4. (currently amended) The inductive, electrical-circuit element of claim 1 wherein:
the conductor is formed of a sheet of highly electrically-conductive material;
the segments each having approximately the same thickness and being of at least two different widths defining different aspect ratios of width to thickness;
a segment of one geometry having an aspect ratio that is relatively high with respect to a segment of another geometry.

5. (currently amended) The inductive, electrical-circuit element of claim 1 wherein:
the conductor has a plurality of cutouts therein defining a series of the segments
forming a current carrying path.
6. (currently amended) The inductive, electrical-circuit element of claim 5 wherein:
the conductor has a plurality of gaps therein, each interrupting a shorter one of
current paths around one of the cutouts.
7. (currently amended) The inductive, electrical-circuit element of claim 5 wherein:
the conductor is an annular sheet split along a radius thereof ~~at one point on~~
interrupting its circumference, providing and defining said ends of the
conductor ~~for connection~~ connectable across an RF power source.
8. (currently amended) The inductive, electrical-circuit element of claim 7 wherein:
the conductor has a shape selected from the group consisting of generally
planar, generally cylindrical, generally spherical, and generally conical.
9. (currently amended) The inductive, electrical-circuit element of claim 1 wherein:
the conductor is formed of a sheet of highly electrically-conductive material;
the segments each having a thickness and a width defining an aspect ratio of
width to thickness;
a segment of one geometry having an aspect ratio that is relatively high with
respect to a segment of another geometry;
the conductor has a plurality of cutouts therein defining a series of the segments
of different aspect ratios forming a current carrying path.
10. (currently amended) The inductive, electrical-circuit element of claim 9 wherein:
the cutouts are arranged in one or more circles.

11. (currently amended) The inductive, electrical-circuit element of claim 9 wherein:
the cutouts are spaced around one or more circles at approximately equally
circumferentially spaced intervals.

12. (currently amended) An ICP source comprising the inductive, electrical-circuit
element of claim 1 and further comprising:
an RF power source connected across the terminals at the ends of the
conductor;
a dielectric window having a chamber side and an outside;
the inductive electrical-circuit element being on the outside of the ~~chamber~~
dielectric window and generally congruent to the dielectric ~~wall~~window
and having a width and a longitudinal extent generally parallel to the
dielectric ~~wall~~window and having a thickness generally perpendicular to
the dielectric ~~wall~~window.

13. (currently amended) An ICP apparatus comprising the inductive, electrical-circuit
element of claim 1 and further comprising:
a vacuum processing chamber having a chamber wall having a dielectric wall
window therein; and
the inductive, electrical-circuit element being outside of the chamber and
generally congruent to the dielectric ~~wall~~window and having a width and a
longitudinal extent generally parallel to the dielectric ~~wall~~window and
having a thickness generally perpendicular to the dielectric ~~wall~~window.

Claims 14-20 (canceled)

21. (new) The inductive, electrical-circuit element of claim 1 wherein:
the conductor has a generally planar shape.
22. (new) The inductive, electrical-circuit element of claim 1 wherein:
the conductor has a shape that lies generally on the surface of a cylinder.
23. (new) The inductive, electrical-circuit element of claim 1 wherein:
the conductor has a shape that lies generally on the surface of a sphere.
24. (new) The inductive, electrical-circuit element of claim 1 wherein:
the conductor has a shape that lies generally on the surface of a cone.

25. (new) An electrical-circuit inductor for an ICP source comprising:

a conductor formed of a sheet of electrically conductive material in the shape of at least one loop having opposite edges encircling an axis, the sheet having:

a gap extending between the opposite edges and defining a pair of terminal ends;

a pair of RF connectors, one fixed to each of the terminal ends;
and

a plurality of cutouts alternately spaced in the opposite edges defining a serpentine conductive path between the terminal ends that is formed of a series of segments of alternating high and low cross-sections and widths.

26.(new) An ICP source comprising the electrical-circuit inductor of claim **25** and further comprising:

an RF power source connected across the ends of the conductor;

a dielectric window having a vacuum chamber side and an outside;

the inductor being adjacent the outside of the dielectric window, generally congruent thereto, the widths being generally parallel to the dielectric window and the thicknesses being generally perpendicular to the dielectric window.

27.(new) An ICP apparatus comprising the inductor of claim **25** and further comprising:

a vacuum processing chamber having a chamber wall having a dielectric window therein; and

the inductor being outside of the chamber, generally congruent to the dielectric window, the widths of the segments being generally parallel to the dielectric window and thicknesses of the segments being generally perpendicular to the dielectric window.